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June 6, 1990

ATKEARNEY

Ms. Carol Johnson
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841 Chestnut Street
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Reference: EPA Contract No. 69-W9-0040; Work Assignment No.
R03-14-01; Naval Medical Command; Bethesda, MD;
EPA I.D. No. MD4170024687; RCRA Facility
Assessment; Phase I RFA (Preliminary Review)
Report; Deliverable

Dear Ms. Bulkin:

Enclosed please find the draft Phase I Preliminary Review Report (PRR) for the above-referenced facility. This PRR supplements the VSI Notification Letter that was previously submitted for this facility. The Visual Site Inspection (VSI) is now tentatively scheduled for June 26 and 27, 1990. This date has been revised from the original work plan date of June 5 and 6, 1990. This rescheduling has been agreed upon by David Turner, the Technical Monitor for this facility.


The facility's operations include administration and provision of health care for the Navy's National Capital Region, as well as medical education and research. As a result of these operations, the facility generates and manages laboratory, medical, and low-level radioactive wastes. In addition, the facility manages wastes such as paint wastes, waste solvents, waste pesticides, and waste petroleum products as a result of the activities necessary to support naval Medical Command operations. A total of 34 Solid Waste Management Units have been identified in this report.

The PRR identifies additional information needs for each potential SWMU, as well as information about land use, history, a description of operations, and processes and waste management practices. The available file material did not provide sufficient information to prepare a SWMU map.

Ms. Carol Johnson
June 6, 1990
Page Two

If you have any questions or comments on the PRR, please feel free to call me at (703) 548-4700, or Bill Goold, the Kearney Team Work Assignment Manager, at (212) 571-7750.

Sincerely,



J.A. Atchue III
Technical Director

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RCRA FACILITY ASSESSMENT
PHASE I RCRA FACILITY ASSESSMENT REPORT

of the

NAVAL MEDICAL COMMAND
BETHESDA, MARYLAND

EPA I.D. NO. MD4170024687

Submitted by:

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A.T. Kearney, Inc.
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Alexandria, Virginia 22313

Submitted to:

U.S. Environmental Protection Agency
Region III
841 Chestnut Street
Philadelphia, Pennsylvania 19107

In response to:

EPA Contract No. 68-W9-0040
Work Assignment No. R03-14-01

June 1990

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TABLE OF CONTENTS

	<u>PAGE</u>
I. INTRODUCTION	I-1
II. ENVIRONMENTAL SETTING	II-1
Location and Surrounding Land Use	II-1
Climate and Meteorology	II-1
Topography, Surface Drainage, and Soils	II-3
Geology and Hydrogeology	II-7
III. FACILITY DESCRIPTION	III-1
General Facility Description	III-1
History of Ownership and Land Use	III-1
Regulatory History	III-2
Operations and Process Description	III-3
Waste and Waste Management Practices	III-4
History of Releases	III-9
IV. DESCRIPTION OF SOLID WASTE MANAGEMENT UNITS	IV-1
V. REFERENCES	V-1

RCRA FACILITY ASSESSMENT
PHASE I PRELIMINARY REVIEW REPORT

of the

NAVAL MEDICAL COMMAND
BETHESDA, MARYLAND

EPA I.D. NO. MD4170024687

TABLE OF CONTENTS (Continued)

<u>FIGURES</u>	<u>PAGE</u>
Figure II-1 Naval Medical Command Facility Location Map .	II-2
Figure II-2 Wind Rose	II-4
Figure II-3 Facility Topographic Map	II-5
Figure II-4 Flood Plain Map	II-6
Figure II-5 Soils Map	II-8
 <u>TABLES</u>	
Table II-1 Description of Soil Types	II-9
Table III-1 Hazardous Substances Generated at NAVMEDCOM NATCAPREG	III-5
Table III-2 Solid Waste Management Units	III-8

I. INTRODUCTION

The 1984 Hazardous and Solid Waste Amendments (HSWA) to the Resource Conservation and Recovery Act (RCRA) authorize EPA to require corrective action for releases of hazardous waste or hazardous constituents from solid waste management units (SWMUs) and other areas of concern (AOCs) at all operating, closed, or closing RCRA facilities. The intent of this authority is to address previously unregulated releases to air, surface water, soil, groundwater, and from the generation of subsurface gas. The first phase of the corrective action program, as established by EPA, is development of a RCRA Facility Assessment (RFA). The RFA includes a Preliminary Review (PR) of all available relevant documents, a Visual Site Inspection (VSI), and, if appropriate, a Sampling Visit (SV).

This report summarizes the results of the PR of the Naval Medical Command National Capital Region (NAVMEDCOM NATCAPREG) in Bethesda, Maryland. The command provides and directs health care services for the National Capital Region for the Navy. Sources of information utilized in this report include files from EPA Region II and from the State of Maryland Department of the Environment in Baltimore, Maryland. Included in the file material were the facility's Part A application, the Controlled Hazardous Substances Permit Application, a Preliminary Assessment conducted at the facility, hazardous waste inspection reports,

Notices of Violation, and state and federal correspondence with the Command. A total of 34 SWMUs were identified from the review of the available file material.

Chapter II of this report discusses the environmental setting of the facility, including location and surrounding land use; climate and meteorology; topography, surface drainage, and soils, and geology and hydrogeology. Chapter III provides a general facility description; history of ownership and land use; regulatory history; operations and process descriptions; wastes and waste management practices; and history of releases. Chapter IV describes each of the SWMUs and their information needs. Chapter V lists the references used in preparing this review.

II. ENVIRONMENTAL SETTING

Location and Surrounding Land Use

The NAVMEDCOM NATCAPREG is located in the metropolitan area of Washington, DC, in Bethesda, Maryland. A vicinity map showing the geographic location of the facility is shown in Figure II-1. The facility is bordered by Wisconsin Avenue to the west, Jones Bridge Road to the south, and Interstate 495, the Capital Beltway, to the north. The facility is surrounded by a mixture of residential, institutional, and open space. Present zoning is predominantly single family housing. The population in Montgomery County was 577,840 in 1980. The population density of the County in 1980 was 1,168 persons per square mile except for Bethesda where the density was 4,035 persons per square mile (Reference 2).

Climate and Meteorology

Montgomery County, Maryland experiences a humid, temperate, continental climate. Summers are warm with an average temperature of 73 degrees Fahrenheit; however, it is not uncommon for daily temperatures to rise above 90 degrees Fahrenheit in July and August. The winter months average a temperature of 35 degrees Fahrenheit with a minimum temperature not normally below 15 degrees Fahrenheit. January and February are normally the coldest months of the year (Reference 2).

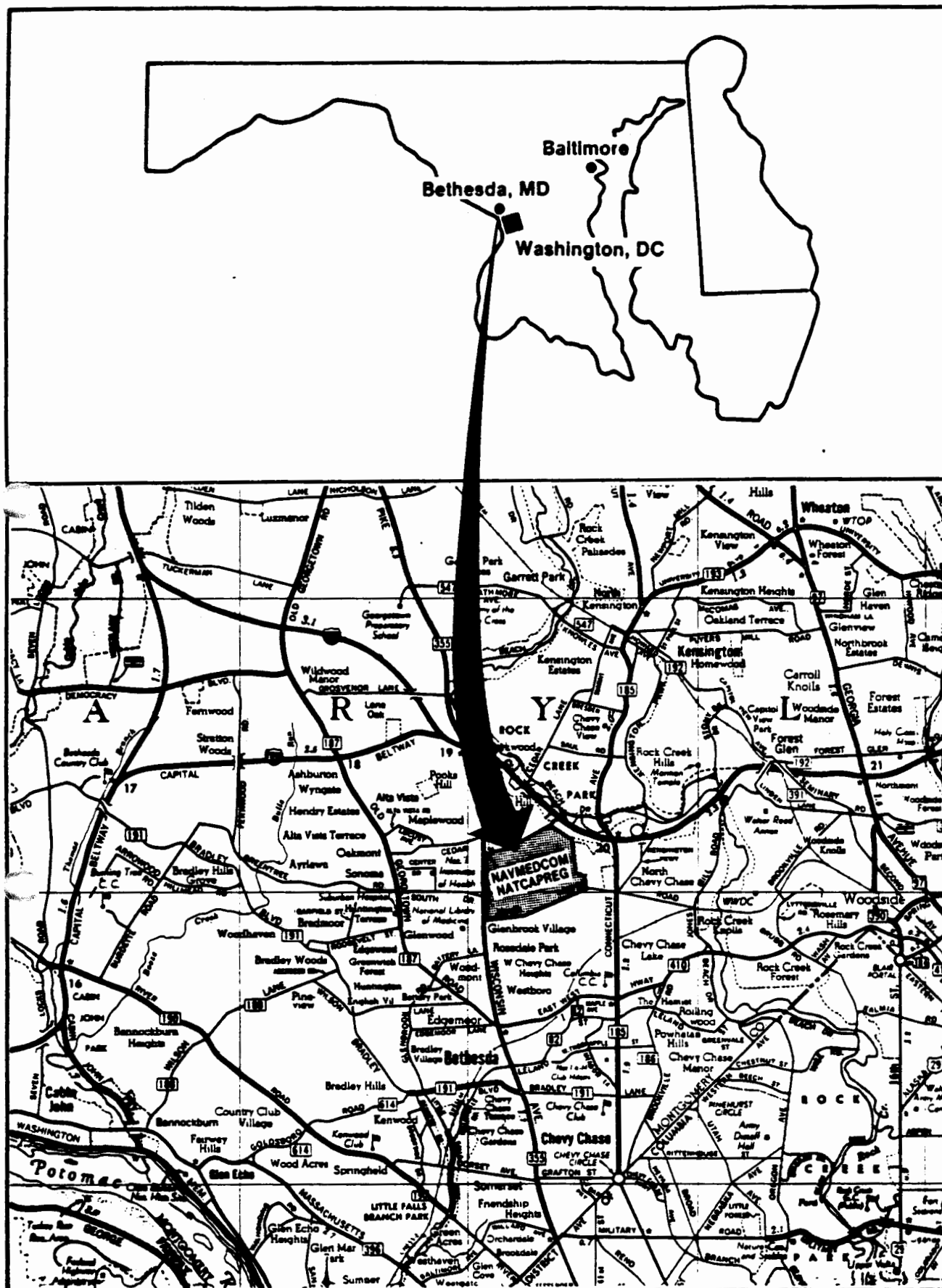


Figure II-1 LOCATION MAP, NAVMECOM NATCAPREG
BETHESDA, MARYLAND

The average annual precipitation is approximately 39 inches which is unevenly distributed throughout the year. In the fall, winter, and spring most rains are slow and steady. Heavier showers that occur in the late spring and summer or during snow melts increase the chance of flooding. August tends to be the month of the greatest precipitation. The mean annual lake evaporation is 36.5 inches (Reference 2).

Wind speed is generally between 5-10 mph with winter being slightly more. Prevailing winds are from the south, southwest and become more north during the winter months. A wind rose for the facility is shown in Figure II-2 (Reference 1).

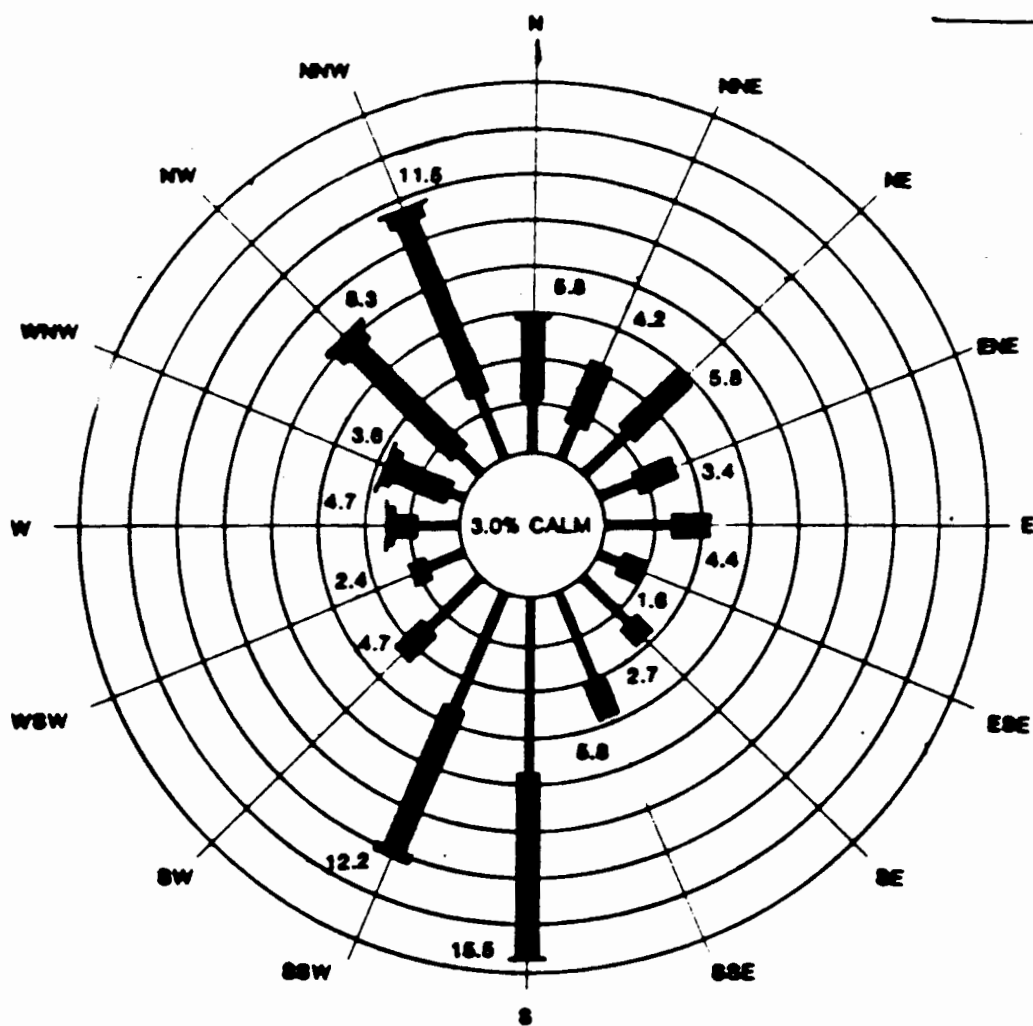
Topography, Surface Drainage, Geology, and Soil

NAVMEDCOM NATCAPREG has generally rolling, undulating topography. The elevation of the facility varies from approximately 200 feet to 320 feet above MSL. A topographic map which includes the facility is shown in Figure II-3 (Reference 1).

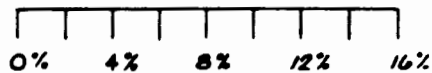
The 100 year flood plain of Stoney Creek bisects NAVMEDCOM NATCAPREG as shown in Figure II-4. Stoney Creek flows into Rock Creek, which ultimately flows into the Potomac River. Rock Creek is approximately 1,000 feet north of the opposite side of Interstate Route 495 and has a 100-year flood elevation of between 211 and 212 feet above National Geodetic Vertical Datum

Figure II-2

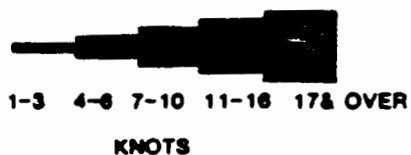
WIND ROSE FOR NAVMEDCOM NATCAPREG



PERCENTAGE FREQUENCY SCALE



LEGEND



(A) OBTAINED FROM LOCAL CLIMATOLOGICAL DATA, NOAA STATION: WASHINGTON NATIONAL AIRPORT
 (B) BASED ON 29207 OBSERVATIONS PERIOD : 1965-74

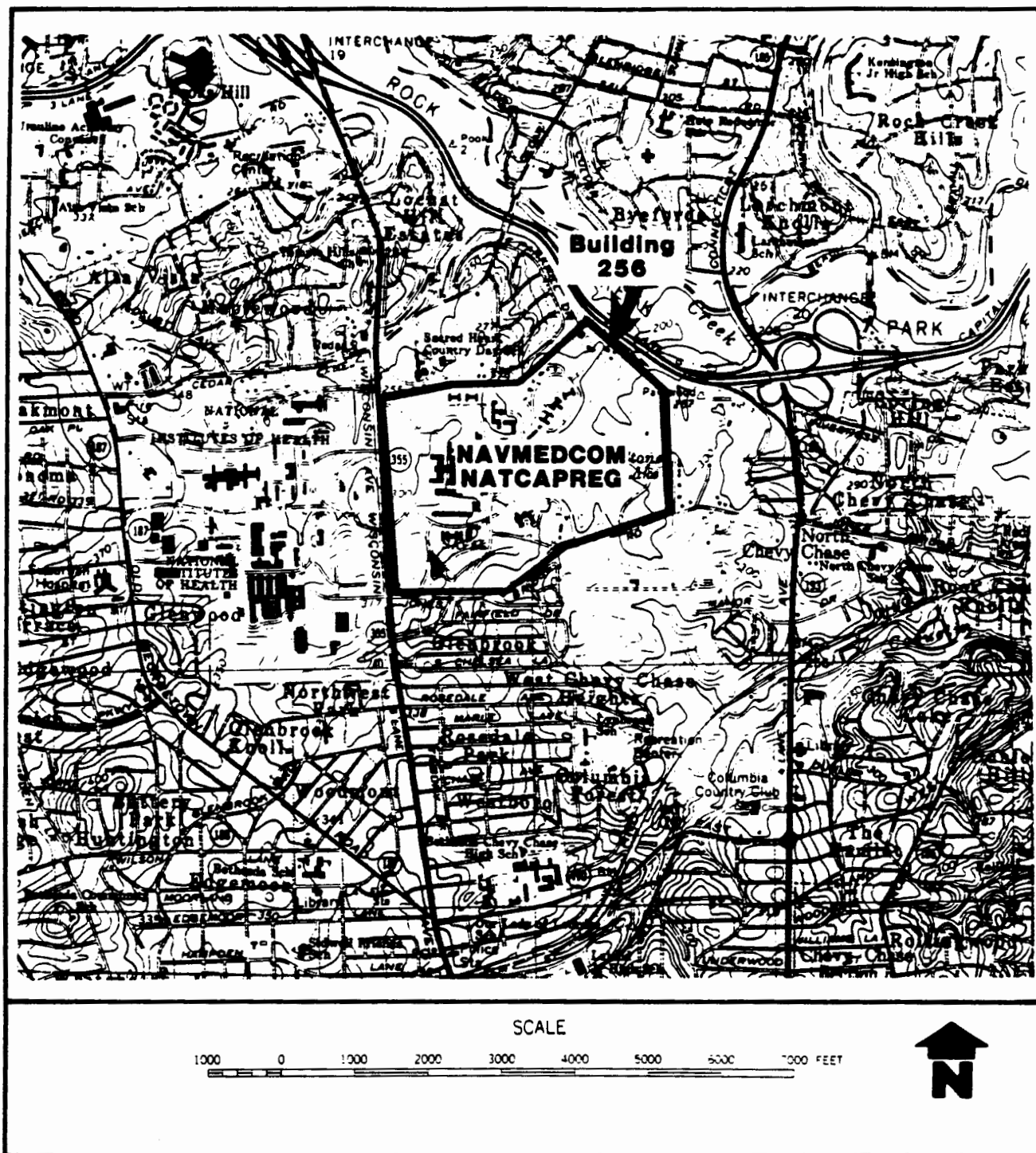


Figure II-3 FACILITY TOPOGRAPHIC MAP
NAVMEDCOM NATCAPREG

Encumbrances

Legend:

-  Landscaping Buffer Zones
-  100 Year Flood Plain
-  Future Expansion
-  Helicopter Approach Zone
-  Areas of Opportunity

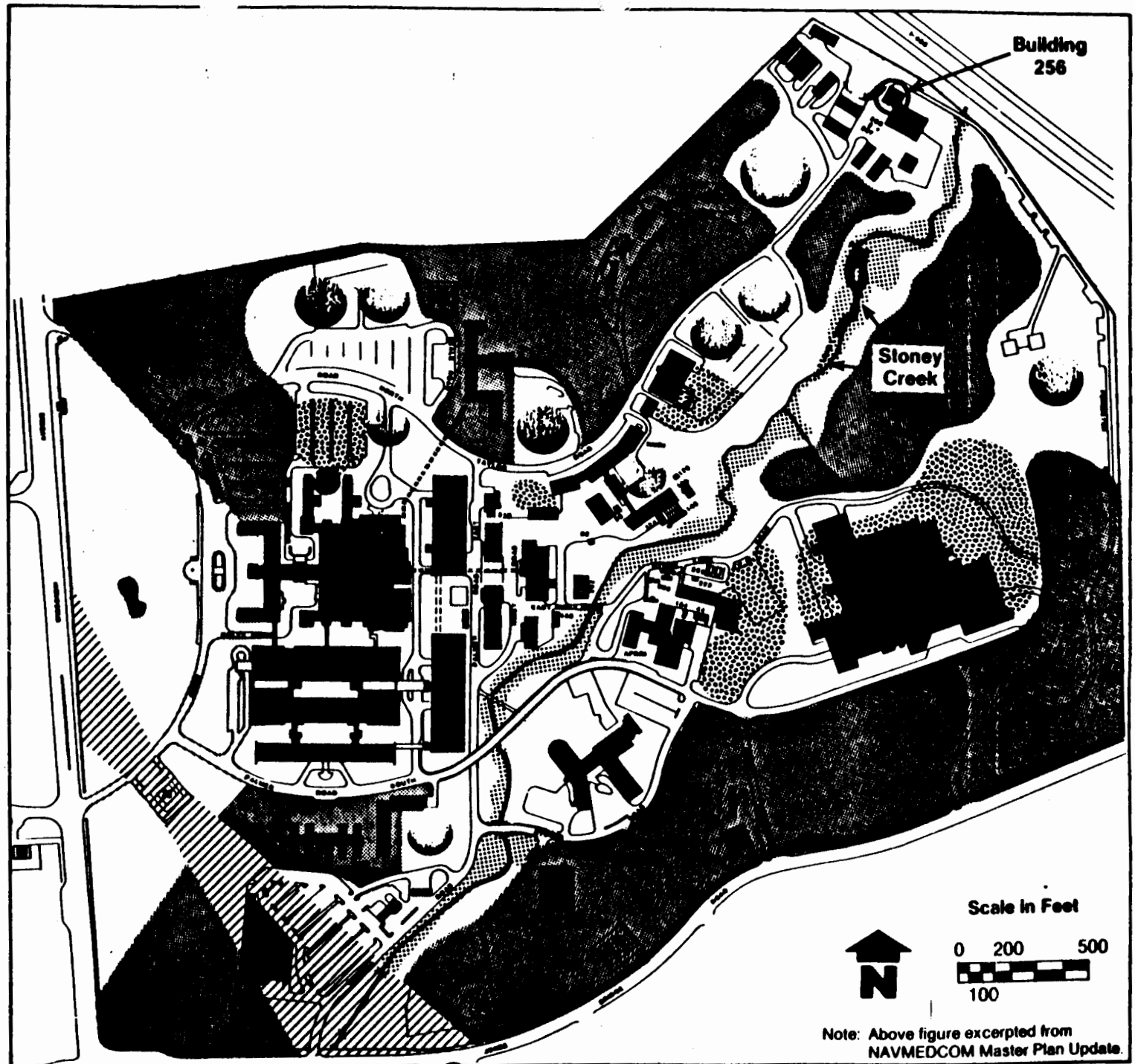


Figure II-4

100-YEAR FLOODPLAIN OF STONEY CREEK
NAVMEDCOM NATCAPREG—BETHESDA, MARYLAND

in the vicinity north of NAVMEDCOM NATCAPREG. The Potomac River is the primary source of drinking water for the area (Reference 2).

NAVMEDCOM NATCAPREG lies within the Piedmont physiographic province. The area consists of well drained, nearly level to moderately steep, loamy soils that developed in materials from strongly acid to very strongly acid throughout, except where limed. A soils map for the facility is shown in Figure II-5 and symbols and descriptive information for the soil types are described in Table II-1 (Reference 2).

Geology and Hydrogeology

"NAVMEDCOM NATCAPREG lies at the southern edge of the Maryland Piedmont. The region is underlain by closely folded sedimentary rocks that have been metamorphosed by granitic rocks. The structure generally trends northeast-southwest. The strike approximately parallels the fall line between the Piedmont and the overlapping Cretaceous Coastal Plain sediments (Reference 1)."

"The major geologic units in this area are characterized as Marburg and Lower Pelitic schist of the Wissahickon formation (late Precambrian). The Lower Pelitic schist is a medium to coarse-grained biotiteoligoclase-muscovite-quartz-schist, fine-

Figure II-5

SOIL MAP

Approx. Scale: 1" = 600'

ORIGINAL
(1967)



FIGURE 2
SOIL MAP

Source: SCS, 1966



PRELIMINARY ASSESSMENT
NAVAL MEDICAL COMMAND
NATIONAL CAPITAL REGION
Bethesda, Maryland

Table II-1 - Soils at NAVMEDCOM NATCAPREG, Bethesda, MD

<u>Symbol</u>	<u>Map Unit Name</u>
1B	Ashe-Ashe Variant loam, 3 to 8 percent slopes
2B	Glenelg silt loam, 3 to 8 percent slopes
2C	Glenelg silt loam, 8 to 15 percent slopes
2D	Glenelg silt loam, 15 to 25 percent slopes
3C	Occoquan-Ashe loam, 8 to 15 percent slopes
3D	Occoquan-Ashe loam, 15 to 25 percent slopes
4C	Urban land-Ashe complex, 8 to 15 percent slopes
5B	Urban land-Glenelg complex, 0 to 8 percent slopes
5C	Urban-land-Glenelg complex, 8 to 15 percent slope

Soils Descriptions

- Ashe Soils. The Ashe series consists of moderately deep, somewhat excessively drained soils on uplands on the Piedmont Plateau. They formed in materials weathered from gneiss. Slopes range from 0 to 25 percent. The soil to a depth of 22 inches is loam. The substratum between depths of 22 and 30 inches is gneiss saprolite which is very hard and brittle in place but crushes to sandy loam. Bedrock, below a depth of 30 inches is rippable micaceous gneiss.
- Ashe Variant Soils. The Ashe Variant series consists of shallow, somewhat excessively drained soils on uplands on the Piedmont Plateau. Slopes range from 2 to 15 percent. The soil to a depth of 16 inches, is loam. The substratum between depths of 16 and 24 inches is a gneiss saprolite. Bedrock below a depth of 16 inches is rippable micaceous gneiss.
- Glenelg Soils. The Glenelg series consists of very deep, well drained soils on uplands on the Piedmont Plateau. They formed in materials weathered from micaceous schist. Slopes range from 0 to 25 percent. The soil, to a depth of 29 inches, is silt loam. The substratum from a depth of 29 to 62 inches is micaceous loam and fine sandy loam.
- Occoquan Soils. The Occoquan series consists of deep, well drained soils mostly on upland side-slopes on the Piedmont Plateau. They formed in materials weathered from gneiss. Slopes range from 8 to 25 percent. The soil, to a depth of 24 inches, is loam. The substratum between depths of 42 and 60 inches is gneiss saprolite that crushes to sandy loam but is very hard and brittle in place.
- Urban land. The Urban land is occupied by buildings, streets, sidewalks, parking lots or other impervious surfaces which alter or cover the soils so that true identification is not feasible.

* Table II-I appears in Reference 2.

to medium-grained semipilitic schist and fine-grained granular psammatic granulite. The apparent thickness of the Lower Pelitic schist is reportedly 5,500 feet or more (Reference 1)."

"The water-bearing zones of the Wissahickon Formation include various types of fractured/somewhat weathered schists (including Albite-chlorite, Marburg, Pelitic, Oligoclase-mica, etc.). The Piedmont saprolite and gneiss bedrock are considered to be the single water bearing unit, with the water under unconfined or water table conditions. Most water storage and circulation is reported to generally occur in the upper 300 feet of this aquifer where fractures are wider, more abundant, and more interconnected (Reference 2)."

"Groundwater levels generally rise in the winter months. In summer, higher evapotranspiration rates cause a soil-water deficit, and groundwater levels drop off as the groundwater continues to discharge into streams. In the Montgomery County area it is reported that groundwater may fluctuate from three to 15 feet (Reference 2)."

"Average yields of 50 gpm or more have been reported from some shallow wells (approximately 150-feet deep) located on slopes or in draws. For optimum production, wells are generally advanced to approximately 300-feet deep in these areas (Reference 2)."

In general, the groundwater at NAVMEDCOM NATCAPREG is reported to be between five and 25 feet below the ground surface according to soil borings taken in 1975. There is no information available on the specific groundwater flow directions. However, it is assumed that shallow groundwater occurring in unconfined sediment layers would follow general topographic trends and flow into Stoney Creek. Other information will be needed to verify and expand on this information (Reference 2).